Analytical Laboratory

13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: **J13110048**

Project Name: NPDES - MONTHLY

Customer Name(s): Michael Byrd, Craig Mercer, Mark J Harper, Todd Spade, Matthew Hoyt, Desiree

Customer Address: 11021 BROWER RD.

NORTH BEND, OH 45052

Lab Contact: Mary Ann Ogle Phone: 980-875-5274

Report Authorized By: (Signature) Mary Ann Ogle 2013.11.15 11:11:46 -05'00' **Date:** 11/15/2013

Mary Ann Ogle

Program Comments:

Outfall 608 metals sample was recieved unacidified. I spoke with Mark Harper and he verified that he did not overfill or rinse the vial prior to collection. We acidified the sample and rechecked the pH after 24 hours and it was < 2. We may have a buffering issue due to the matrix.

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with a Qualifier indicate a deviation from the method quality system or quality control requirement. The qualifier description is found at the end of the Certificate of Analysis (sample results) under the qualifiers heading. All results are reported on a dry weight basis unless otherwise noted. Subcontracted data included on the Duke Certificate of Analysis is to be used as information only. Certified vendor results can be found in the subcontracted lab final report. Duke Energy Analytical Laboratory subcontracts analyses to other vendor laboratories that have been qualified by Duke Energy to perform these analyses except where noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2013026943	MIAMI-FORT	05-Nov-13 8:40 AM	Mark Harper	OUTFALL 002
2013026944	MIAMI-FORT	05-Nov-13 9:00 AM	Mark Harper	OUTFALL 608

2 Total Samples

Technical Validation Review

Checklist:

COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures).	☑ Yes	☐ No
All Results are less than the laboratory reporting limits.	☐ Yes	☑ No
All laboratory QA/QC requirements are acceptable.	☑ Yes	☐ No

Report Sections Included:

- ☑ Job Summary Report
- ☑ Sample Identification
- ☑ Technical Validation of Data Package
- ☑ Analytical Laboratory Certificate of Analysis
- ☐ Analytical Laboratory QC Report
- ☐ Sub-contracted Laboratory Results
- ☑ Customer Specific Data Sheets, Reports, & Documentation
- ☐ Customer Database Entries
- ☑ Chain of Custody
- ☐ Electronic Data Deliverable (EDD) Sent Separatel

Reviewed By: Mary Ann Ogle Date: 11/15/2013

Certificate of Laboratory Analysis

This report shall not be reproduced, except in full.

Order # J13110048

Site: OUTFALL 002 **Sample #: 2013026943**
Collection Date: 05-Nov-13 8:40 AM Matrix: NPDES

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
TOTAL DISSOLVED SOLIDS								
TDS	**890**	mg/L		125	1	SM2540C	11/12/2013 15:00	DSBAKE1

Site: OUTFALL 608 **Sample #: 2013026944**
Collection Date: 05-Nov-13 9:00 AM Matrix: NPDES

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
ALKALINITY (FIXED END POINT 4.5)								
Alkalinity (mg/L CaCO3)	**1800**	mg/L (CaCO3)		0.1	1	SM2320B	11/08/2013 09:33	TJA7067
INORGANIC IONS BY IC								
Chloride	**5100**	mg/L		100	1000	EPA 300.0	11/08/2013 16:47	JAHERMA
Fluoride	**33**	mg/L		10	100	EPA 300.0	11/08/2013 16:47	JAHERMA
Sulfate	**17000**	mg/L		200	2000	EPA 300.0	11/08/2013 16:47	JAHERMA
TOTAL METALS BY ICP								
Boron (B)	**603**	mg/L		1	20	EPA 200.7	11/11/2013 13:59	MHH7131
Iron (Fe)	**0.121**	mg/L		0.01	1	EPA 200.7	11/11/2013 13:59	MHH7131
Manganese (Mn)	**4.19**	mg/L		0.005	1	EPA 200.7	11/11/2013 13:59	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Barium (Ba)	**125**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Cadmium (Cd)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Chromium (Cr)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Copper (Cu)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Lead (Pb)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
Zinc (Zn)	**< 20**	ug/L		20	1	EPA 200.8	11/12/2013 11:18	DJSULL1
TOTAL DISSOLVED SOLIDS								
TDS	**39000**	mg/L		125	1	SM2540C	11/12/2013 15:00	DSBAKE1
TOTAL SUSPENDED SOLIDS								
TSS	**8.0**	mg/L		5	1	SM2540D	11/11/2013 10:02	DSBAKE1

DUKE ENERGY

Analytical Bench Sheet

QCBatchID: **Q13110088**

PrepBatchID: P13110019

Created: Friday
08 Nov 2013, 09:58 AM
By Ashish Parmar

Test: **ICP_TOT**
Procedure: **1203**
Method: **EPA 200.7**
Instrument: **ICP**
Analysis Date: **08-Nov-13**
Analyst: AP

Seq #	Order ID	Sample ID	Description	Matrix
0		BLANK #1	Blank	
1		LCS #1	LCS	
2	J13110048	2013026944	MIAMI-FORT OUTFALL 608	NPDES
3		MS #1	MS of 2013026944	
4		MSD #1	MSD of 2013026944	

Standard: ✓0.25ml Gr.1 AL-13-9320, ✓0.25ml Gr.2B AL-13-9096
✓Conc. HNO3 AL-13-9465, ✓1:1 HCl 48-340

Reagent: Sample Acidified: 11/06/2013 1:20 PM
Start Time : 11/08/2013 9:45 AM
Verified pH to be <2 on 11/08/2013 9:30 AM

Notes: B, FE, MN

BD # 14

DUKE ENERGY

Analytical Bench Sheet

QCBatchID: **Q13110089**

PrepBatchID: P13110020

Created: Friday
08 Nov 2013, 10:07 AM
By Ashish Parmar

Test:	**IMS_TRM**
Procedure:	**1235**
Method:	**EPA 200.8**
Instrument:	**ICP-MS**
Analysis Date:	**08-Nov-13**
Analyst:	AP

Seq #	Order ID	Sample ID	Description	Matrix
0		BLANK #1	Blank	
1		LCS #1	LCS	
2	J13110048	2013026944	MIAMI-FORT OUTFALL 608	NPDES
3		MS #1	MS of 2013026944	
4		MSD #1	MSD of 2013026944	
5	J13110055	2013026956	ZIMMER OUTFALL 021	NPDES
6		MS #2	MS of 2013026956	
7	J13110055	2013026957	ZIMMER OUTFALL 021 - DUP	NPDES
8	J13110055	2013026958	ZIMMER OUTFALL 614	NPDES
9		MS #3	MS of 2013026958	
10	J13110055	2013026959	ZIMMER OUTFALL 614 - DUP	NPDES

Standard: ✓0.25ml Gr.9 AL-13-9338
✓1:1 HNO3 48-339,✓H2O2 AL-13-9197

Reagent: 2013026944 Acidified: 11/06/2013 1:20 PM
2013026944 Start Time : 11/08/2013 9:45 AM
2013026944 Verified pH <2 on 11/08/2013 9:30 AM

Notes: AS, BA, CD, CR, CU, PB, ZN

BD # 13

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

DUKE ENERGY®

Analytical Laboratory Services

Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(980) 875-5245
Fax: (980) 875-4349

Analytical Laboratory Use Only

LIMS # J13115448 | Sample Class **NPDES** | Samples Orginating From: NC ___ SC_____ OH__X___

Logged By DM | Date & Time 11/6/13 1300 | SAMPLE PROGRAM Water ___ NPDES __X_ Ground Other ___ Plant ___ RCRA Waste ___

Vendor | 0.5 Cooler Temp (C)

PO # | [15]Preserv.: 1=HCl 2=H_2SO_4 3=HNO_3 4=Ice 5=None

Preservative when used must be added within 15 minutes of sample collection

Customer must Complete

1)Project Name: MIAMI FORT NPDES MONTHLY (Week 1 Nov 5,2013)		2)Phone No:
3)Client: Miami Fort - Michael Byrd, Matt Hoyt		4)Fax No:
5)Business Unit:	6)Project ID:	7)Mail Code
8)Operating Unit:	9)Activity ID:	10)Process ID:

Customer to complete all appropriate non-shaded areas.

LAB USE ONLY [11]Lab ID	[12]Chem Desktop No.	[13]Sample Description or ID	[14]Collection Information Date	Time	Signature	[16]Analyses Required [17]Comp.	[18]Grab	TDS	Cl, F, SO4	B, Fe, Mn, As, Ba, Cd, Cr, Cu, Pb, Zn	TSS	Alkalinity	
2J 3026943		Outfall 002	11-5-13	0840	Mark Harper		X	1					
2J 3026944		Outfall 608	11-5-13	0900	Mark Harper		X	1	1	1	1	1	METALS SAMPLE WAS UNPRESERVED

Customer to complete appropriate columns to right

Customer to sign & date below - fill out from left to right.

1) Relinquished By: Mark Harper	Date/Time: 11-5-13 0915	2) Accepted By:	Date/Time: 11/6/13 1235
3) Relinquished By:	Date/Time:	4) Accepted By:	Date/Time:
5)Relinquished By:	Date/Time:	6)Accepted By:	Date/Time:
7)Relinquished By:	Date/Time:	8)Accepted By:	Date/Time:
9)Seal/Locked By: Mark Harper	Date/Time: 11-5-13 0915	10) Seal/Lock Opened By:	Date/Time: 11/6/13 1235
11)Seal/Locked By:	Date/Time:	12)Seal/Lock Opened By:	Date/Time:

Comments: ICP_TOT - B,Fe, Mn IMS_TRM - As, Ba, Cd, Cr, Cu, Pb, Zn

Customer, IMPORTANT! Please indicate desired turnaround.

[22]Requested Turnaround

10 Days ___X_____
*7 Days _____
*48 Hr _____
*Other _____
* Add. Cost Will Apply